# AFGHANISTAN ENGINEER DISTRICT

## Your Safety Role as a QC Manager

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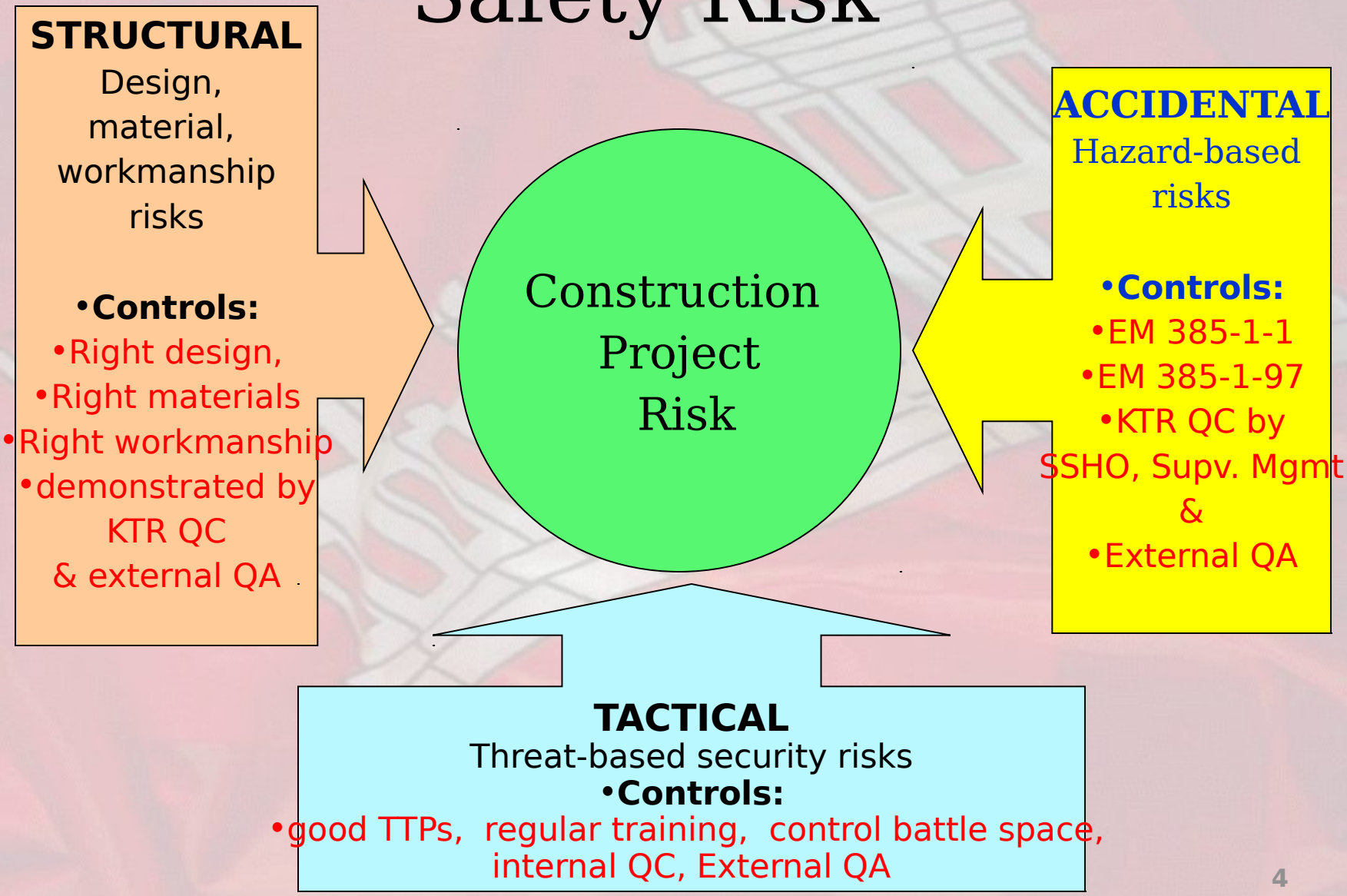
# Overview

- Contract Safety Provisions
- CRM  - Composite Risk Management
- Your role as QC Manager for:
  - DBA Insurance Administration
  - UXO / Demining – EM 385-1-97 / ER 385-1-95
  - Construction Safety – EM 385-1-1

# Contract Safety Provisions

- FAR Clause 52.236-13: Accident Prevention
  - EM 385-1-97: Explosive Safety
  - EM 385-1-1: Construction Safety
- DBA Insurance clause

# Control of Construction Safety Risk



# What is Risk ?

- Risk is a function of Probability and Severity

| Risk Assessment Matrix | | | | | |
|---|---|---|---|---|---|
| Severity | Probability | | | | |
| | Frequent | Likely | Occasional | Seldom | Unlikely |
| Catastrophic | E | E | H | H | M |
| Critical | E | H | H | M | L |
| Marginal | H | M | M | L | L |
| Negligible | M | L | L | L | L |
| E - Extremely High H - High M - Moderate L - Low | | | | | |

# Effective Risk Management

- Addresses each of the aspects
  - Structural, Accidental, Tactical
- Prioritizes risks in each aspect
- Concentrates resources on highest risk in each aspect first – then on lower risks.
- Evaluates effectiveness of controls

# DBA Insurance

- Requirements:
  - a) get and maintain coverage,
  - b) file claims within 10 days of worker injury or death. (including hostile fire WIA/KIA).
- LS 202 is the form for filing to CNA/Rutherford.
- A copy of the LS 202 must be sent to the COR and AED-N Safety Office.

# How do you QC DBA insurance?

1. Do you have a paid up premium receipt from CNA/Rutherford?
2. Is your SSHO is keeping a log of worker injury/death?
3. Has your SSHO or designated person filed a claim for each person on the log?
4. Have you sent a copy of the LS202 to AED-N (COR and Safety)?
5. Has the worker or his family received the settlement?

# UXO in Afghanistan

# Explosive Hazards

Thermal flux, Blast Overpressure, Fragmentation

| Thermal Flux (Fireball) | Blast Overpressure (Blast | Fragmentation |
|---|---|---|

# UXO/Demining

- Requirements:
  - Use an accredited subcontractor
  - Clear to 1 meter depth
  - Provide a completed clearance certificate.
  - Do not start work until the certificate is approved.
  - Train all workers to Recognize, Retreat, and Report any suspected UXO/Mines.

# How do you QC UXO/Demining Safety?

1. Is the subcontractor on the UNMACA accredited list?
2. Are they using some kind of carried or towed array to clear – not just talking, not just “yellow sticks”?
3. Is the clearance certificate filled out completely and signed?
4. Have you submitted the certificate to AED-N and has it been approved?
5. Have all workers been trained to Recognize, Retreat, and Report any suspected UXO/Mines?

# CONSTRUCTION SAFETY

**EM 385-1-1**
**Safety and Health Requirements Manual**
**15 Sep 08**
**(3 Nov 03)**

# Construction Safety Requirements

- SSHO required must have 30 Hr. Construction Safety course.
- APP with AHA must be accepted by AED-N.
- AHA should match features of work.
- Workers must be briefed using AHA at the start of each feature of work.
- SSHO must be on-site at all times and must make regular walk-thru inspections for compliance.
- SSHO must keep a log of these deficiencies and track to closure.

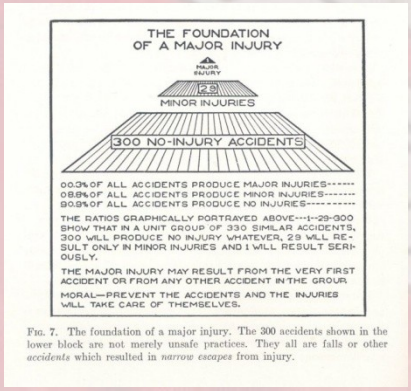
# Use of EM 385-1-1

- Familiarize yourself with key requirements in EM385-1-1 for the EH / H hazards before you go on site.
- Think about what hazards are likely during both current and next phase of work – Look at your APP to see if the AHA includes the ones you have identified.
- Incorporate safety observations – good and bad – during your site visit.
- Create an expectation that a good supervisor / manager takes care of all parts of the job quality – cost, schedule, materials & workmanship, **and safety**.

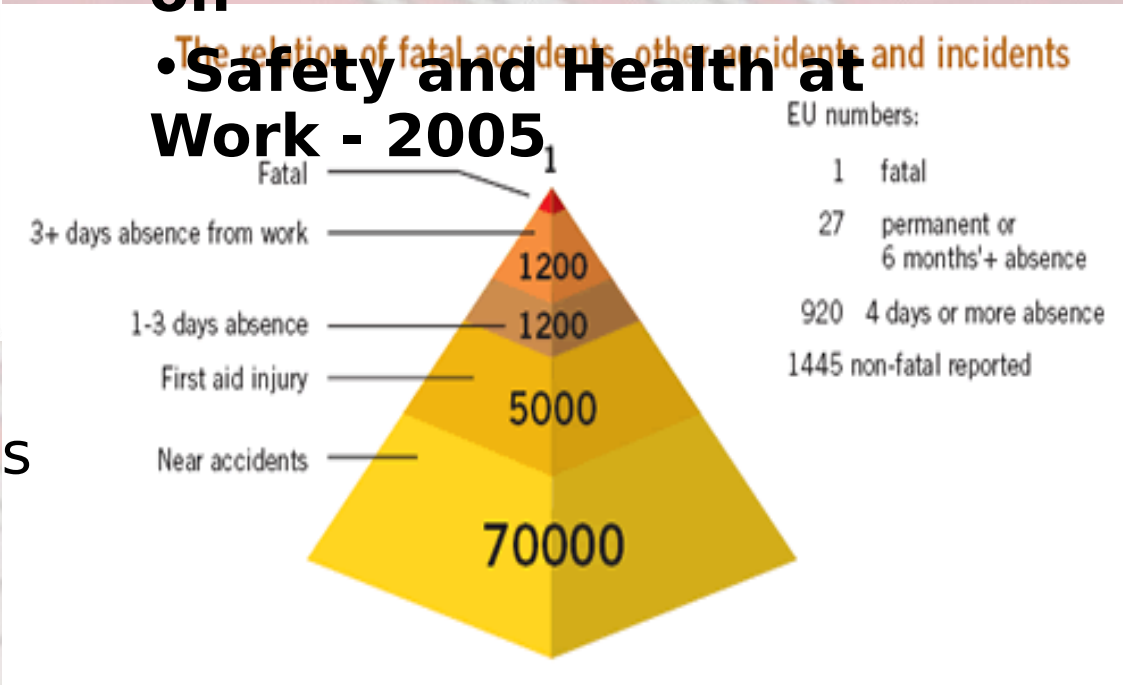
# Accident Pyramid

- Traditional

- Heinrich – 1920s

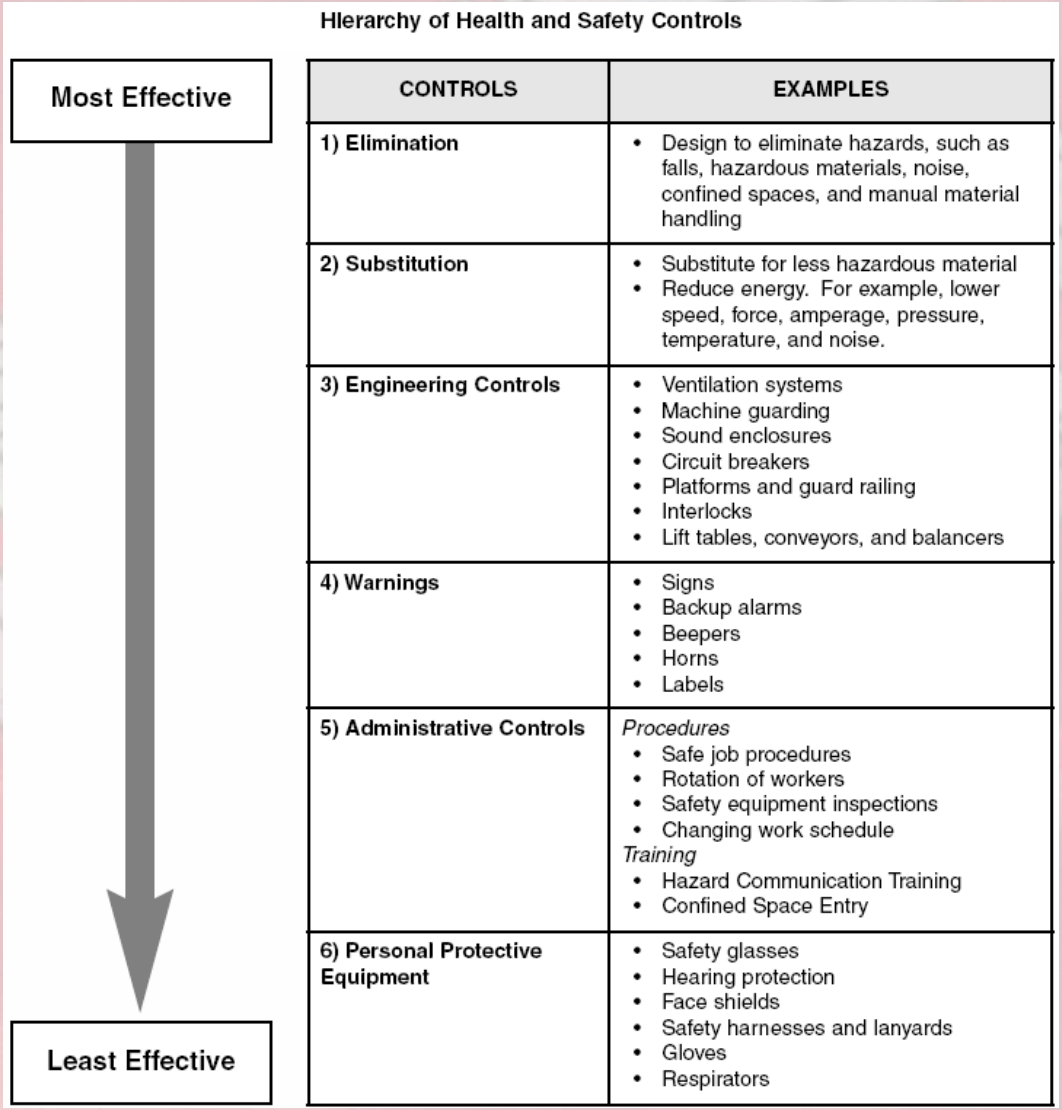

THE FOUNDATION OF A MAJOR INJURY
MAJOR INJURY
29
MINOR INJURIES
300 NO-INJURY ACCIDENTS
0.3% OF ALL ACCIDENTS PRODUCE MAJOR INJURIES
8.8% OF ALL ACCIDENTS PRODUCE MINOR INJURIES
90.9% OF ALL ACCIDENTS PRODUCE NO INJURIES
THE RATIOS GRAPHICALLY PORTRAYED ABOVE---1-29-300 SHOW THAT IN A UNIT GROUP OF 330 SIMILAR ACCIDENTS, 300 WILL PRODUCE NO INJURY WHATEVER, 29 WILL RESULT ONLY IN MINOR INJURIES AND 1 WILL RESULT SERIOUSLY.
THE MAJOR INJURY MAY RESULT FROM THE VERY FIRST ACCIDENT OR FROM ANY OTHER ACCIDENT IN THE GROUP.
MORAL—PREVENT THE ACCIDENTS AND THE INJURIES WILL TAKE CARE OF THEMSELVES.
Fig. 7. The foundation of a major injury. The 300 accidents shown in the lower block are not merely unsafe practices. They all are falls or other *accidents* which resulted in *narrow escapes* from injury.

- **XVIIth World Congress on**
- **Safety and Health at Work - 2005**




- **BLUF:**
- **There are lots of opportunities to see that something is wrong – before someone is killed or seriously injured.**

# Hierarch of Controls




| CONTROLS | EXAMPLES |
|---|---|
| **1) Elimination** | • Design to eliminate hazards, such as falls, hazardous materials, noise, confined spaces, and manual material handling |
| **2) Substitution** | • Substitute for less hazardous material<br>• Reduce energy. For example, lower speed, force, amperage, pressure, temperature, and noise. |
| **3) Engineering Controls** | • Ventilation systems<br>• Machine guarding<br>• Sound enclosures<br>• Circuit breakers<br>• Platforms and guard railing<br>• Interlocks<br>• Lift tables, conveyors, and balancers |
| **4) Warnings** | • Signs<br>• Backup alarms<br>• Beepers<br>• Horns<br>• Labels |
| **5) Administrative Controls** | *Procedures*<br>• Safe job procedures<br>• Rotation of workers<br>• Safety equipment inspections<br>• Changing work schedule<br>*Training*<br>• Hazard Communication Training<br>• Confined Space Entry |
| **6) Personal Protective Equipment** | • Safety glasses<br>• Hearing protection<br>• Face shields<br>• Safety harnesses and lanyards<br>• Gloves<br>• Respirators |

# Examples of Accidental Risks

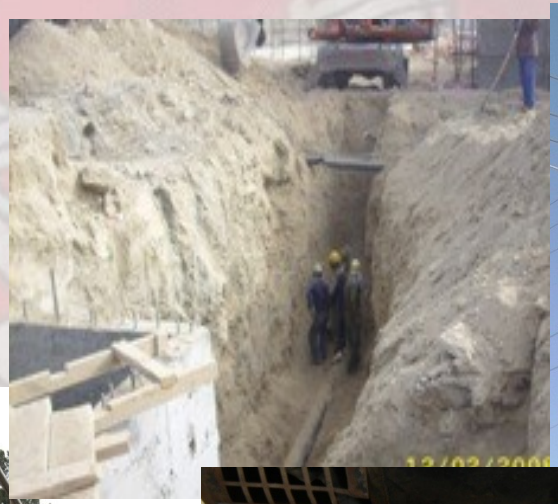
- **Extremely High / High Risk**
  - Excavations (>1.8m) – EH if > 6m
  - Electrical
    - High Voltage (>600 V)
    - Proximity to energized overhead lines - EH
    - Other – exposed electrical connections, non-GFCI protected circuits, .
  - Falls / Scaffolding (>2m) – EH if over 8m.
  - Other
    - UXO clearance - (EH if ICM / sub-munitions)
    - Confined Space, Critical Crane Lift

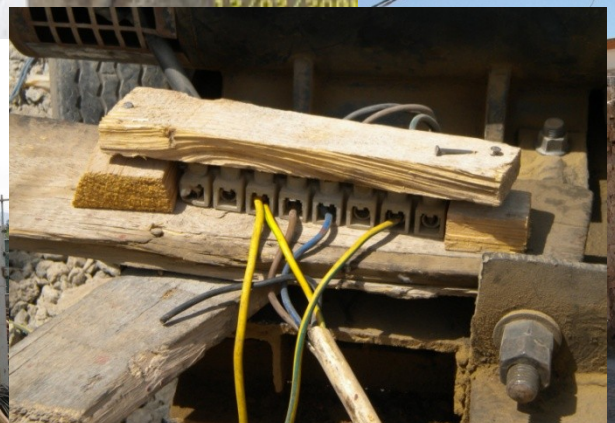
# Examples of Accidental Risks

- **Moderate**
  - Heavy Equipment in close proximity to workers
  - Unguarded equipment (concrete mixers, generators, etc. with open flywheels and belts) & Unguarded portable tools (grinders, saws, etc.)
  - Eye protection when grinding
- **Low**
  - Normal PPE issues not associated with EH/H/M risks.

# Construction Hazards – Big 3

| Scaffolding & Fall Protection | Excavation | Electrical |
|---|---|---|





# The Safety Piece of your QC Manager role

- A good quality control manager understands and engages in all aspects of the project quality – including safety.
- You (like every manager and supervisor) is personally responsible for safety.
- The SSHO is your technical resource.
- Part of your QC Manager role is checking on the quality of compliance with the EM and your approved APP/AHA.

# How do you QC Construction Safety?

- Has your SSHO completed the 30 Hr. Construction Safety course.
- Has your APP/AHA been accepted by AED?
- Does the AHA match your features of work?
- Have workers been briefed using AHA at the start of each feature of work?
- Is your SSHO on-site at all times and making regular walk-thru inspections for compliance.
- Is your SSHO keeping a log of these deficiencies and tracking to closure?
- Do your safety observations match your SSHO?

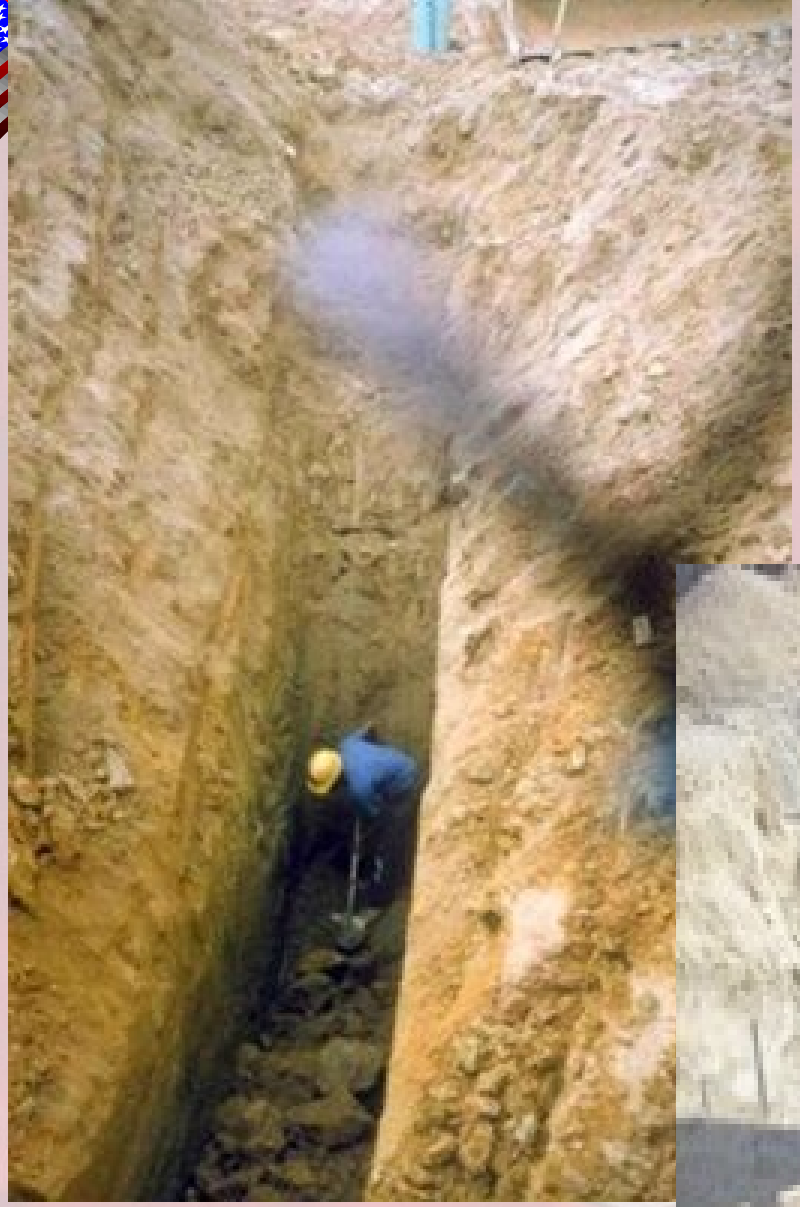
# Questions:

What’s wrong or right with this picture?

If wrong, how high is the risk?

What would you do?

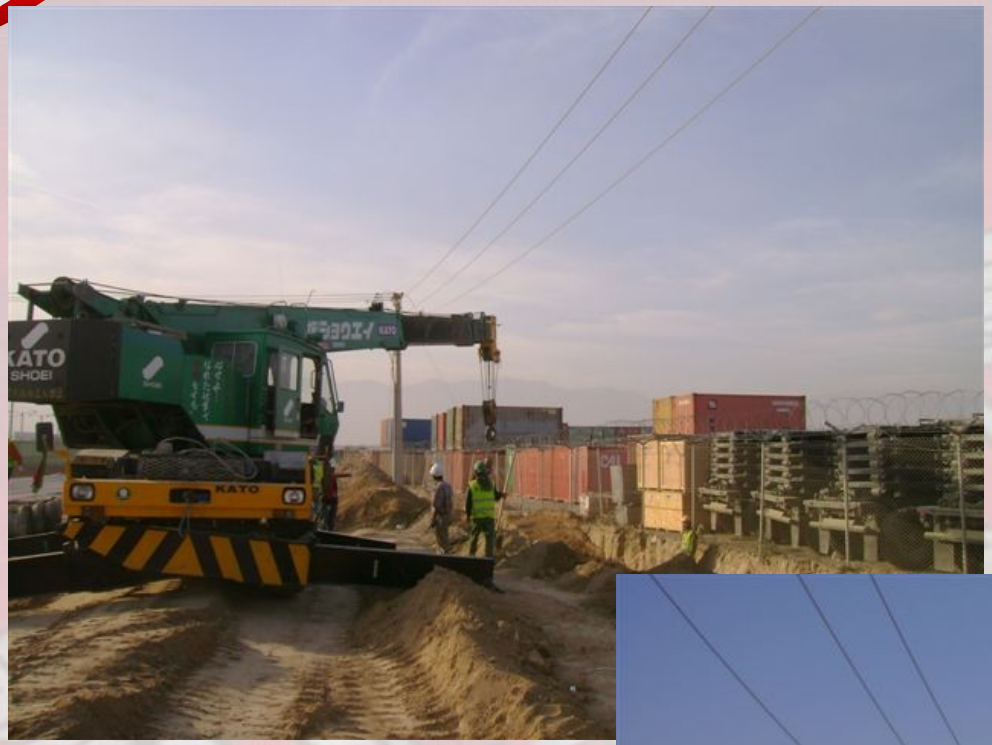
# THE SAFETY PHOTO TOUR



12/02/2000 10:00

Eye protection must be worn
Safety helmets must be worn
Fasten your safety belt
CAUTION
LOCK-OUT FOR SAFETY BEFORE YOU START
SAFETY FIRST
BE CAREFUL

MERCURY
DEVELOPMENT
DANGER
Site Safety Start here
All visitors must report to site office
Fire extinguishers located in
No hat, No boots, NO JOB!
FIRST AID
No access for unauthorised prosons
No Children


KATO
SHOEI
KATO

HAJIGUL

MAROUIS

JTGC
JTGC
JTGC

340
UNIC

MERCURY
DEVELOPMENT
DANGER
Construction work in progress
Site Safety Start here
All visitors must report to site office
Fire extinguishers located in
No hat, No boots, NO JOB!
FIRST AID
First aid for this site is available
No access for unauthorised persons
No Children

# Summary

- As QC Manager you have three Safety things to monitor:
  1. DBA insurance
  2. UXO / Demining
  3. Construction Accident Prevention
- Do you know how to monitor for quality on all three of these things?

# Questions ? ? ?

Always ask if you are not sure.

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